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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,849	12/15/2005	Misao Konishi	94175	2102
24628	7590	05/13/2009	EXAMINER	
Husch Blackwell Sanders, LLP			ARBES, CARL J	
Husch Blackwell Sanders LLP Welsh & Katz				
120 S RIVERSIDE PLAZA			ART UNIT	PAPER NUMBER
22ND FLOOR				3729
CHICAGO, IL 60606				
			MAIL DATE	DELIVERY MODE
			05/13/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/560,849	KONISHI ET AL.	
	Examiner	Art Unit	
	C. J. Arbes	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 December 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-7 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 15 December 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1.) Certified copies of the priority documents have been received.
 2.) Certified copies of the priority documents have been received in Application No. _____.
 3.) Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>herein</u> . | 6) <input type="checkbox"/> Other: _____ . |

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. To the extent that there is no sufficient antecedent bases for the language ...placing the adhesive sheet on the wiring pattern so as to leave a space consists of a gap between the adhesive sheet and the printed circuit board (Cf. claim 1) in Applicants' specification the claims are held to contain new matter.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, assuming that there is not any new matter, are further rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al (U.S. Doc. 2003/0170444 A1); hereinafter Stewart et al.

Stewart et al teach a method of mounting a PCB having bonding pads to a surface mounted electronic device. Terminal leads are provided on the surface that connects to the electronic device. An electronic device is mounted onto the circuit board to form an assembly in which terminal leads or solder bumps are aligned with

corresponding landing pads on the PCB with the adhesive facing the circuit board. A gap is provided between the thermoplastic adhesive and the printed circuit board.. The assembly is heated such as to provide an adhesive bond between the organic between the organic bottom surface of the electronic device and the PCB and also to provide a solder joint between the connecting substrate and the landing pads on the PCB. (Cf. .page 22). It would have been obvious to place an adhesive sheet on the wiring pattern so as to leave a space that consists of a gap between the adhesive sheet and the PCB inasmuch as the adhesive invariably has gaps (or pores) therein do to its nature. As applied to claims 3 and 4 Stewart et al teach that the adhesive is heated to about 180 Celsius and then allowed to cool after which the circuit board is bent across various mandrels (Cf. Page 17). Hence it would have been obvious to pressurize and also provide temperature that is higher than 60 degrees Celsius and equal to or lower than the reaction temperature of the adhesive sheet. As applied to claims 5 and 6 it is held to have been mere design choice to provide that the adhesive sheet is anisotropic and that the PCB is flexible inasmuch as there is no particular purpose therefore nor is any specific problem solved thereby. Moreover a person having ordinary skill in this art would be able to provide an anisotropic adhesive sheet when necessary or a flexible PCB inasmuch as these 2 limitations are old in this art. (Cf. Applicants' admission on page 1). The limitation recited in claim 7 would have been obvious inasmuch any pressure exerted on a material having the pore characteristics of an adhesive sheet would reduce the amount of trapped air in the adhesive..

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, to the extent that the specification does not contain new matter are further rejected under 35 U.S.C. 103(a) as being unpatentable over Kumakura. (Japan Pat No. 2001068508 A);

Kumakura teaches *inter alia* that it is old to provide an anisotropic layer between a circuit board surface mounted electronic device. (Cf. Description of the Prior Art in the Kumakura teaching). It therefore is held to have been obvious to provide an anisotropic film between the circuit board and the surface mounted electronic device. Moreover Kumakura teaches preventing generation of bubbles in a thermosetting resin by forming a thermosetting resin layer on the circuit board and connecting a chip through thermocompression bonding (Cf. Abstract). It would have been obvious to place an adhesive sheet on the wiring pattern so as to leave a space that consists of a gap between the adhesive sheet and the PCB inasmuch as the adhesive invariably has gaps (or pores) therein due to its nature. As applied to claims 3 and 4 Stewart et al teach that the adhesive is heated to about 180 Celsius and then allowed to cool after which the circuit board is bent across various mandrels (Cf. Page 17). Hence it would have been obvious to pressurize and also provide temperature that is higher than 60 degrees Celsius and equal to or lower than the reaction temperature of the adhesive sheet. As applied to claims 5 and 6 it is held to have been mere design choice to provide that the

adhesive sheet is anisotropic and that the PCB is flexible inasmuch as there is no particular purpose therefore nor is any specific problem solved thereby. Moreover a person having ordinary skill in this art would be able to provide an anisotropic adhesive sheet when necessary or a flexible PCB inasmuch as these 2 limitations are old in this art. (Cf. Applicants' admission on page 1). The limitation recited in claim 7 would have been obvious inasmuch any pressure exerted on a material having the pore characteristics of an adhesive sheet would reduce the amount of trapped air in the adhesive..

.Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. J. Arbes whose telephone number is 571-272-4563. The examiner can normally be reached on M, T, R and F from 8 to 6. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Banks, can be reached on (571) 272-4419. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/560,849
Art Unit: 3729

Page 6

/C. J. Arbes/
Primary Examiner, Art Unit 3729